

REMARKS

The Office Action dated December 29, 2004 has been reviewed. Claims 7-16 and 21-26 are pending, and are submitted for reconsideration by the Examiner. Claims 7-16 and 21-26 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,649,687 to Rosas et al. ("Rosas") in view of U.S. Patent No. 4,362,185 to Kadner, and further in view of U.S. Patent No. 4,002,318 to Koch and U.S. Patent No. 4,830,333 to Watson. Applicant respectfully traverses the rejection under 35 U.S.C. § 103(a). Applicant has amended claims 21 and 25 to particularly point out and distinctly claim Applicant's invention.

Claims 21 and 25 each recite a purge solenoid valve assembly, including an overmolded cap, a bobbin, a pin, a pin displacement calibration feature, and a resilient element biasing the pin. The bobbin includes a hollow core, and first and second flanges. The pin extends the whole length through the hollow core from the first flange to the second flange. The overmolded cap defines a first cavity and a second cavity spaced from the first cavity. The first cavity contiguously engages the first and second flanges and generally encapsulates the bobbin. The second cavity houses the pin displacement calibration feature and the resilient element. Thus, the cap is an overmolded part that provides two spaced cavities to separate the calibration components of the assembly from the magnetic circuit and valve components of the assembly. Support for these features is provided at, for example, page 3, ll. 5-23, page 4, ll. 6-15 and Fig. 5, of Applicant's specification as originally filed.

As described at col. 3, line 28-41, and col. 3, line 58-41 and shown in Fig. 1 of Rosas, the solenoid assembly 14 includes a pole piece 46, an armature 60, and a coil spring 58 disposed in the hollow core of spool 38. The lower end of the pole piece 46 is specially shaped to permit high frequency operation of the solenoid assembly 14. The special shape includes a concentric, circular cylindrical protrusion 54 of reduced diameter at the lower end of the pole piece stem 50. The lower end of the pole piece 46 also has a concentric bore that receives the upper end of a coil spring 58 that extends through the annular protrusion 54. The upper end of the armature 60 is specially shaped to cooperate with the pole piece 46. This special shape includes a concentric, circular cylindrical recess 66 at the upper end of the armature 60 that receives the cylindrical protrusion 54 of the pole piece 46. The armature 60 also has a concentric cavity 68 below the recess 66 that receives the lower end of the coil spring 58. As described at col. 4, line 20-26, a

modulated high frequency electric current is fed to the coil 36 of the solenoid assembly 14 in a programmed manner so that the armature 60 reciprocates back and forth. This is done at a very high frequency due to the special shape of the interfacing portions of the pole piece 46 and the armature 60. Thus, Applicant submits that Rosas does not show at least the features of a pin extending the whole length through a hollow core from a first flange to a second flange, and an overmolded cap that defines a first cavity and a second cavity spaced from the first cavity, such that the first cavity contiguously engages the first and second flanges and generally encapsulates a bobbin, and the second cavity houses a pin displacement calibration feature and a resilient element for biasing the pin, as recited in each of claims 21 and 25.

Applicant submits that neither Kadner, Koch nor Watson overcomes the above-described deficiencies of Rosas. Any modification of Rosas to include a pin extending through the hollow core of spool 38 between the first flange and the second flange, and to position the coil spring 58 in a second cavity of the housing 30, would necessarily require substantial modification of the specially shaped and integrated pole piece 46, armature 60 and coil spring 58 of Rosas, thus rendering the Rosas valve unsatisfactory for its intended purpose. As discussed in M.P.E.P. § 2143.01, “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).”

Accordingly, Applicant respectfully submits that claims 21 and 25 are patentable. Claims 7-16 and 22-24 ultimately depend from claim 21, and claim 26 depends from claim 25. The dependent claims recite the same combination of allowable features recited in the respective independent claims, as well as additional features that further distinguish over the prior art. At least for the above-described reasons, Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a), of claims 7-16 and 21-26, be withdrawn and the claims allowed.

CONCLUSION

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing all pending claims in condition for allowance. Applicant submits that the claim amendments do not raise new issues or necessitate additional search of the art by the Examiner.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite the prosecution.

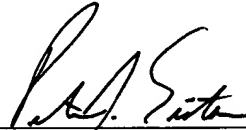
If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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Dated: March 29, 2005

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